## ABSTRACT OF THE DISCLOSURE

A polyhydroxyalkanoate is disclosed which has in the molecule a unit represented by Chemical Formula (1).

$$\begin{array}{c|c}
 & H & H_2 & \\
\hline
 & C & C \\
\hline
 & C & C
\end{array}$$

$$\begin{array}{c|c}
 & X = 1-8 \\
\hline
 & (1)
\end{array}$$

wherein R is arbitrarily selected from a hydrogen atom, a halogen atom, CN, NO<sub>2</sub>, COOR', SO<sub>2</sub>R", CH<sub>3</sub>, C<sub>2</sub>H<sub>5</sub>, C<sub>3</sub>H<sub>7</sub>, C(CH<sub>3</sub>)<sub>2</sub>H and C(CH<sub>3</sub>)<sub>3</sub>; where R' is H, Na, K, CH<sub>3</sub> or C<sub>2</sub>H<sub>5</sub>, and R" is OH, ONa, OK, a halogen atom, OCH<sub>3</sub> or OC<sub>2</sub>H<sub>5</sub>; and x is an integer arbitrarily selected from 1 to 8; with the proviso that a polyhydroxyalkanoate is excluded which has a hydrogen atom as R and x in all the units is 2 or 4. Also disclosed is a process for producing the polyhydroxyalkanoate by the use of a microorganism having the ability to produce the polyhydroxyalkanoate and accumulate it in the bacterial body.